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10/656,800	09/05/2003	James W. Warner	OI7035752001	7105

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EXAMINER

MORRISON, JAY A

ART UNIT	PAPER NUMBER
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2168

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06/09/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/656,800	Applicant(s) WARNER ET AL.	
	Examiner JAY A. MORRISON	Art Unit 2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/11/09</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Reopen Prosecution

1. In view of the Pre-Appeal Brief filed on 2/25/2009, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

If an appellant wishes to reinstate an appeal after prosecution is reopened, appellant must file a new notice of appeal in compliance with 37 CFR 41.31 and a complete new appeal brief in compliance with 37 CFR 41.37. Any previously paid appeal fees set forth in 37 CFR 41.20 for filing a notice of appeal, filing an appeal brief, and requesting an oral hearing (if applicable) will be applied to the new appeal on the same application as long as a final Board decision has not been made on the prior appeal. If, however, the appeal fees have increased since they were previously paid, then appellant must pay the difference between the current fee(s) and the amount previously paid. Appellant must file a complete new appeal brief in compliance with the format and content requirements of 37 CFR 41.37(c) within two months from the date of filing the new notice of appeal. See MPEP § 1205.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-25 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims are directed to a process that is not tied to another statutory class and does not transform the underlying subject matter to a different state or thing. See *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780,787-88 (1876).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

Art Unit: 2168

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frasier et al. ('Frasier' hereinafter) ("BURG - Fast Optimal Instruction Selection and Tree Parsing", by Fraser et al., ACM SIGPLAN Notices, Volume 27, No. 4, April 1992) in view of Kiselyov ("Better XML Parser through Functional Programming", by Kiselyov, Lecture Notes In Computer Science, Vol. 2257 archive, Proceedings of the 4th International Symposium on Practical Aspects of Declarative Languages, Pages: 209 - 224, Year of Publication: 2002, ISBN:3-540-43092-X.) and further in view of Chakraborty et al. ('Chakraborty' hereinafter) (Publication Number 2002/0188613).

As per claim 1, Frasier teaches

A computer-implemented method for processing a program statement in a database query language, the program statement corresponding to a plurality of operators, wherein an operator tree is associated with the plurality of operators, the operator tree comprising a parent operator node, the method comprising: (see overview)

identifying a child node that is associated with the parent operator node; (subject tree is operator tree, section 2, fifth paragraph; subject tree has nodes which by definition have parent/child relationship, section 3, first paragraph)

determining if the child node relates to an operator for which top-down processing is capable of being performed, wherein the top-down processing is capable of being performed when a result for the operator for the parent operator node; (recursive visit of subtrees where subject nodes may be skipped, section 3, first paragraph; note that the skipping of the subtree means that top-down processing cannot be performed)

calling and executing the operator for the child node to generate a result. (reduce function that traverses trees and prints recursively, section 3, page 72)

Frasier does not explicitly indicate "is capable of being generated without storage of the result" nor "outputting the result to a data stream without buffering the result or an intermediate result in storage when top-down processing is performed".

However, Kiselyov discloses "is capable of being generated without storage of the result" (accumulates no data, section 4.2, fifth paragraph) and "outputting the result to a data stream without buffering the result or an intermediate result in storage when top-down processing is performed" (prints names as identified and accumulates no data, section 4.2, fifth paragraph and figure 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Frasier and Kiselyov because using the steps of "is capable of being generated without storage of the result" and "without buffering the

Art Unit: 2168

result or an intermediate result in storage when top-down processing is performed” would have given those skilled in the art the tools to improve the invention by allowing the implementation of an efficient, compliant, stream-oriented XML parser. This gives the user the advantage of better use of existing resources.

Neither Frasier and Kiselyov explicitly indicate “outputting the result to a data stream”.

However, Chakraborty discloses “outputting the result to a data stream” (output to stream, paragraph [0055], lines 6-9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Frasier, Kiselyov and Chakraborty because using the steps of “outputting the result to a data stream” would have given those skilled in the art the tools to improve the invention by allowing the merging of DOM trees without using expensive prior methods. This gives the user the advantage of more efficient use of computer resources.

As per claim 2,

Neither Frasier and Kiselyov explicitly indicate “determining whether the data stream already exists; and creating the data stream if it does not exist”.

However, Chakraborty discloses “determining whether the data stream already exists; and creating the data stream if it does not exist” (paragraph [0055], lines 6-9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Frasier, Kiselyov and Chakraborty because using the

Art Unit: 2168

steps of “determining whether the data stream already exists; and creating the data stream if it does not exist” would have given those skilled in the art the tools to improve the invention by allowing the merging of DOM trees without using expensive prior methods. This gives the user the advantage of more efficient use of computer resources.

As per claim 3,

Frasier does not explicitly indicate “the program statement is intended to create XML, wherein one or more XML tags are generated”.

However, Kiselyov discloses “the program statement is intended to create XML, wherein one or more XML tags are generated” (section 4.2, second paragraph).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Frasier and Kiselyov because using the steps of “the program statement is intended to create XML, wherein one or more XML tags are generated” would have given those skilled in the art the tools to improve the invention by allowing the implementation of an efficient, compliant, stream-oriented XML parser. This gives the user the advantage of better use of existing resources.

As per claim 4,

Frasier does not explicitly indicate “the program statement comprises a SQL/XML operator”.

However, Kiselyov discloses “the program statement comprises a SQL/XML operator” (section 4.1, second paragraph).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Frasier and Kiselyov because using the steps of “the program statement comprises a SQL/XML operator” would have given those skilled in the art the tools to improve the invention by allowing the implementation of an efficient, compliant, stream-oriented XML parser. This gives the user the advantage of better use of existing resources.

As per claim 5,

Frasier does not explicitly indicate “the SQL/XML operator is a XMLElement0, XMLAgg0, XMLConcat0, XMLForest0, XMLAttribute0, XMLComment0, or XMLPI0 operator”.

However, Kiselyov discloses “the SQL/XML operator is a XMLElement0, XMLAgg0, XMLConcat0, XMLForest0, XMLAttribute0, XMLComment0, or XMLPI0 operator” (section 3, first paragraph).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Frasier and Kiselyov because using the steps of “the SQL/XML operator is a XMLElement0, XMLAgg0, XMLConcat0, XMLForest0, XMLAttribute0, XMLComment0, or XMLPI0 operator” would have given those skilled in the art the tools to improve the invention by allowing the implementation of an efficient,

Art Unit: 2168

compliant, stream-oriented XML parser. This gives the user the advantage of better use of existing resources.

As per claim 6,

Frasier does not explicitly indicate “nodes corresponding to a concatenate operation or a CASE WHEN statement on top of SQL/XML operator are eligible for top-down processing”.

However, Kiselyov discloses “nodes corresponding to a concatenate operation or a CASE WHEN statement on top of SQL/XML operator are eligible for top-down processing” (section 3, third paragraph).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Frasier and Kiselyov because using the steps of “nodes corresponding to a concatenate operation or a CASE WHEN statement on top of SQL/XML operator are eligible for top-down processing” would have given those skilled in the art the tools to improve the invention by allowing the implementation of an efficient, compliant, stream-oriented XML parser. This gives the user the advantage of better use of existing resources.

As per claim 7,

Neither Frasier and Kiselyov explicitly indicate “the data stream is closed after the parent operator node has been fully evaluated”.

Art Unit: 2168

However, Chakraborty discloses “the data stream is closed after the parent operator node has been fully evaluated” (paragraph [0023]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Frasier, Kiselyov and Chakraborty because using the steps of “the data stream is closed after the parent operator node has been fully evaluated” would have given those skilled in the art the tools to improve the invention by allowing the merging of DOM trees without using expensive prior methods. This gives the user the advantage of more efficient use of computer resources.

As per claim 8, Frasier teaches
identifying another child operator node, wherein the another child operator node is not eligible for top-down processing. (section 3, first paragraph)

As per claim 9, Frasier teaches
the another child operator node is evaluated using bottom-up processing.
(section 3, second paragraph)

As per claim 10, Frasier teaches
both top-down and bottom-up processing are used to evaluate the program statement. (section 3, first paragraph)

As per claim 11,

Art Unit: 2168

Neither Frasier and Kiselyov explicitly indicate “the data stream is built at an intended target location”.

However, Chakraborty discloses “the data stream is built at an intended target location” (paragraph [0023]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Frasier, Kiselyov and Chakraborty because using the steps of “the data stream is built at an intended target location” would have given those skilled in the art the tools to improve the invention by allowing the merging of DOM trees without using expensive prior methods. This gives the user the advantage of more efficient use of computer resources.

As per claim 12,

Neither Frasier and Kiselyov explicitly indicate “the data stream is a single data stream”.

However, Chakraborty discloses “the data stream is a single data stream” (paragraph [0055], lines 6-9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Frasier, Kiselyov and Chakraborty because using the steps of “the data stream is a single data stream” would have given those skilled in the art the tools to improve the invention by allowing the merging of DOM trees without using expensive prior methods. This gives the user the advantage of more efficient use of computer resources.

As per claim 13,

Neither Frasier and Kiselyov explicitly indicate “the data stream is built on a buffer, LOB, HTTP stream, segmented array, data socket, pipe, file, internet stream type, network stream type, or FTP stream”.

However, Chakraborty discloses “the data stream is built on a buffer, LOB, HTTP stream, segmented array, data socket, pipe, file, internet stream type, network stream type, or FTP stream” (paragraph [0019], lines 12-14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Frasier, Kiselyov and Chakraborty because using the steps of “the data stream is built on a buffer, LOB, HTTP stream, segmented array, data socket, pipe, file, internet stream type, network stream type, or FTP stream” would have given those skilled in the art the tools to improve the invention by allowing the merging of DOM trees without using expensive prior methods. This gives the user the advantage of more efficient use of computer resources.

As per claim 14,

Frasier does not explicitly indicate “an intermediate copy is not stored for the output result”.

However, Kiselyov discloses “an intermediate copy is not stored for the output result ” (accumulates no data, section 4.2, fifth paragraph).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Frasier and Kiselyov because using the steps of “an intermediate copy is not stored for the output result” would have given those skilled in the art the tools to improve the invention by allowing the implementation of an efficient, compliant, stream-oriented XML parser. This gives the user the advantage of better use of existing resources.

As per claim 15, Frasier teaches

A computer-implemented method for processing a program statement, the program statement corresponding to a plurality of operators, wherein an operator tree can is associated with the plurality of operators, the operator tree comprising a parent operator node, the method comprising: (see overview)

(a) determining whether the parent operator node is related to a first child operator node that is eligible for top-down processing (subject tree is operator tree, section 2, fifth paragraph; subject tree has nodes which by definition have parent/child relationship, section 3, first paragraph), wherein the first child operator node is eligible for the top-down processing when a result for an operator associated with the first child operator node for the parent operator node; (recursive visit of subtrees where subject nodes may be skipped, section 3, first paragraph; note that the skipping of the subtree means that top-down processing cannot be performed)

and (b) evaluating the first child operator node with top-down processing if the child operator is eligible for top-down processing, wherein the output from top-down

Art Unit: 2168

processing the first child operator node. (reduce function that traverses trees and prints recursively, section 3, page 72)

Frasier does not explicitly indicate “without buffering the result or an intermediate result in storage” nor “is capable of being generated without storage of the result”.

However, Kiselyov discloses “without buffering the result or an intermediate result in storage ” (accumulates no data, section 4.2, fifth paragraph) and “is capable of being generated without storage of the result” (prints names as identified and accumulates no data, section 4.2, fifth paragraph and figure 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Frasier and Kiselyov because using the steps of “without buffering the result or an intermediate result in storage” nor “is capable of being generated without storage of the result” would have given those skilled in the art the tools to improve the invention by allowing the implementation of an efficient, compliant, stream-oriented XML parser. This gives the user the advantage of better use of existing resources.

Neither Frasier and Kiselyov explicitly indicate “is output to a data stream”.

However, Chakraborty discloses “is output to a data stream” (output to stream, paragraph [0055], lines 6-9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Frasier, Kiselyov and Chakraborty because using the steps of “is output to a data stream” would have given those skilled in the art the tools to improve the invention by allowing the merging of DOM trees without using expensive

Art Unit: 2168

prior methods. This gives the user the advantage of more efficient use of computer resources.

As per claims 16-19,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 3-6 and are similarly rejected.

As per claim 20,

Frasier does not explicitly indicate “an intermediate copy is not stored for the output from the first child operator node”.

However, Kiselyov discloses “an intermediate copy is not stored for the output from the first child operator node” (accumulates no data, section 4.2, fifth paragraph).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Frasier and Kiselyov because using the steps of “an intermediate copy is not stored for the output from the first child operator node” would have given those skilled in the art the tools to improve the invention by allowing the implementation of an efficient, compliant, stream-oriented XML parser. This gives the user the advantage of better use of existing resources.

As per claims 21-25,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 8-13 and are similarly rejected.

As per claims 26 and 30-32,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 1 and 3-5, respectively, and are similarly rejected.

As per claims 27 and 33-35,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 1 and 3-5 and are similarly rejected.

As per claims 28 and 36-38,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 15-18 and are similarly rejected.

As per claims 29 and 39-41,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 15-18 and are similarly rejected.

As per claim 42,

regarding the child node. (section 3, first paragraph)

Neither Frasier and Kiselyov explicitly indicate “a volatile or non-volatile medium for storing information”.

Art Unit: 2168

However, Chakraborty discloses “a volatile or non-volatile medium for storing information” (paragraph [0092], lines 1-3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Frasier, Kiselyov and Chakraborty because using the steps of “a volatile or non-volatile medium for storing information” would have given those skilled in the art the tools to improve the invention by allowing the merging of DOM trees without using expensive prior methods. This gives the user the advantage of more efficient use of computer resources.

As per claim 42,

This claim is rejected on grounds corresponding to the arguments given above for rejected claim 43 and is similarly rejected.

Response to Arguments

5. Applicant's arguments with respect to claims 1-43 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. The prior art made of record, listed on form PTO-892, and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2168

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay A. Morrison whose telephone number is (571) 272-7112. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo can be reached on (571) 272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Tim T. Vo/
Supervisory Patent Examiner, Art Unit 2168

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TC2100

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